UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

Ecolab, Inc.,

Plaintiff,

v.

Civ. No. 03-2231(RHK/AJB)
MEMORANDUM OPINION AND ORDER

JohnsonDiversey, Inc.,

Defendant.

Douglas J. Williams and Rachel K. Zimmerman, Merchant & Gould P.C., Minneapolis, Minnesota, for Plaintiff.

John S. Skilton, David J. Harth, Michelle M. Umberger, and Christopher G. Hanewicz, Heller Ehrman White & McAuliffe LLP, Madison, Wisconsin; James T. Nikolai, Nikolai and Mersereau, P.A., Minneapolis, Minnesota, for Defendant.

Introduction

This matter comes before the Court on Plaintiff Ecolab, Inc.'s ("Ecolab") Motion for a Preliminary Injunction. Ecolab has sued Defendant JohnsonDiversey, Inc. ("JohnsonDiversey") alleging that JohnsonDiversey has infringed U.S. Patent No. 6,495,494 B1 ("the '494 patent"), which recites, among other things, a method for lubricating the passage of bottles along a conveyer belt. Ecolab asserts that the alleged infringement presents "a uniquely urgent situation" (Pl.'s Reply Mem. Supp. Prelim. Inj. at 1) and has filed a Motion for a Preliminary Injunction seeking to enjoin

JohnsonDiversey from its allegedly infringing activity. For the reasons set forth below, the Court will deny Ecolab's motion.

Background

I. Conveyor Belt Lubricants

Ecolab, headquartered in Saint Paul, Minnesota (Compl. ¶ 1), and JohnsonDiversey,[1] with its principal place of business in Sturtevant, Wisconsin (Answer ¶ 2), have each been involved in the sale and development of conveyor belt lubricants for more than twenty years (Arata Decl. ¶ 8; Rouillard Decl. ¶ 2, 7). Conveyor belt lubricants are used in bottling plants to ease the passage of bottles in the filling, capping, and labeling process. (Arata Decl. ¶ 7.) Because bottles move along conveyor belts at great speeds, and because bottles often pass through narrow passageways at high volumes, conveyor belt lubricants permit the bottles to remain standing in the event of "bottlenecks" by allowing the conveyer belt to pass easily under the bottles without tipping them. (Id.) Conveyor belt lubricants are widely used in the soda, beer, and dairy industries.

Traditional conveyor belt lubricants, so-called "dilute aqueous lubricants," generally required dilution with a large amount of water, thus creating an extremely wet work environment. (Cleveland Decl. Ex. A (U.S. Patent No. 6,495,494 B1) at col. 1, ll. 30-34.) To permit much drier conditions along conveyor lines, Ecolab and

[1] JohnsonDiversey was previously DiverseyLever, and, before that, Diversey. (Rouillard Decl. ¶ 3.)

JohnsonDiversey have each developed silicone-based lubricants, which can be applied without significant dilution and in relatively small quantities. While silicone lubricants possess many attributes, they also attract soil and bacteria. (Kennedy Decl. ¶ 8.) Consequently, Ecolab and JohnsonDiversey have added additional chemicals to their lubricants to promote a clean, hygienic environment while still providing substantial lubricity. Ecolab's product, the commercial embodiment of the '494 patent, is called Silicone Plus, KX-5152. (Arata Decl. ¶ 2.) JohnsonDiversey's product, embodying a U.S. patent application that predates the filing date of the '494 patent by more than half a year, is called Dicolube TPB. (Kassel Decl. ¶ 65.)

II. Dicolube TPB

In 1989, DiverseyLever began selling a conveyor lubricant called Dicolube TP. (Kennedy Decl. ¶ 13.) Dicolube TP is a silicone-based lubricant that contains, among other things, Kathon, a biocidal agent. (Id.) Because Dicolube TP, like other silicone-based lubricants, attracts significant amount of soil and bacteria, the high-pressure nozzles used to apply it often become clogged. (Id. at ¶ 15.) In 1997, to remedy this problem, Dr. Mario Stanga, a research chemist for Diversey Italy, developed a formula that included a stronger biocide component and a detergent to prevent clogged nozzles. (Id. at ¶ 16.) Dr. Stanga increased the proportion of Kathon and added the solvent Dowanol DPM to prevent the high-pressure nozzles from clogging. (Id. at ¶ 17.) In a 1997 report, Dr. Stanga notes that he chose Dowanol DPM because it would "help

detergency without affecting lubricity." (Id. at Ex. D (Stanga Report) § 3.0.) The new formula was eventually named Dicolube TPB. (Id. at ¶ 16.)

Dicolube TPB was introduced in Europe in 1998. (Id. at ¶ 19.) In the first quarter of 2002, JohnsonDiversey began field-testing the product in the United States and, in the summer of 2002, launched its official U.S. release at a series of regional sales meetings. (Id. at ¶¶ 10, 11.)

III. The '494 Patent

On December 17, 2002, the Patent and Trademark Office ("PTO") issued the '494 patent to Ecolab. (Cleveland Decl. Ex. A.) The '494 patent—the substance of which was published pursuant to international treaty by the World Intellectual Property Organization in February, 2001—describes a method for applying a "thin, substantially non-dripping lubrica[nt]" to a conveyor belt or containers, with the goal of reducing "waste, cleanup, and disposal problems." (Cleveland Decl. Ex. A at col. 1, ll. 57, 62.) The '494 patent's lubricant is created through a mixture of "water-miscible silicone material" and a "water-miscible lubricant." (Id. at col. 7, ll. 37-38.)

The '494 patent contains thirty-two claims. Of these, claims 1 and 21 are independent claims; the remaining claims are dependent claims.[2] Claim 1 recites:

[2] The dependent claims include, but are not limited to, the method or conveyor/container described in the independent claim, wherein: (1) "the mixture forms a substantially non-dripping film," (2) "the mixture can be applied without requiring in-line dilution with significant amounts of water," (3) "the mixture can readily be removed using a water-based cleaning agent," (4) "the mixture is formed without adding surfactants that cause environmental stress cracking in polyethylene terephthalate," (5)

> A method for lubricating the passage of a container along a conveyor, comprising applying a mixture of a water-miscible silicone material and a water-miscible lubricant to at least a portion of the container-contacting surface of the conveyer or to at least a portion of the conveyor-contacting surface of the container.

(Id. at col. 7, ll. 35-40.) Similarly, Claim 21 recites:

> A lubricated conveyor or container, having a lubricant coating on a container-contacting surface of the conveyor or on a conveyor-contacting surface of the container, wherein the coating comprises a mixture of a water-miscible silicone material and a water-miscible lubricant.

(Id. at col. 8, ll. 31-35.) The patent defines "water-miscible" substances as those that are "sufficiently water-soluble or water-dispersible so that when added to water at the desired use level they form a stable solution, emulsion, or suspension." (Cleveland Decl. Ex. A at col. 2, ll. 46-50). The patent does not define the word "lubricant."

"the mixture comprises about 0.05 to about 12 wt. % of the silicone material and about 30 to about 99.95 wt. % of the water mi[s]cible lubricant," (6) "the mixture also comprises water or a hydrophilic diluent," (7) "the mixture comprises about 0.5 to about 8 wt. % of the silicone material, about 50 to about 90 wt. % of the water-miscible lubricant, and about 2 to about 49.5 wt % of water or hydrophilic diluent," (8) "the silicone material comprises a silicone emulsion, finely divided silicone powder, or silicone surfactant," (9) "the silicone material comprises a silicone emulsion and the mixture comprises water," (10) "the water-miscible lubricant comprises a hydroxy-containing compound, polyalkylene glycol, copolymer of ethylene and propylene oxides, sorbitan ester or derivative of any of the foregoing," (11) "the water-miscible lubricant comprises a phosphate ester or amine or derivative of either of the foregoing," (12) "the water-miscible lubricant comprises glycerol," (13) "the mixture has a total alkalinity equivalent to less than about 100 ppm CaCO3," (14) "the total alkalinity equivalent is less than about 30 ppm CaCO3, (15) "the mixture has a coefficient of friction less than about 0.14," (16) "the coefficient of friction is less than about .1," (17) "the containers comprise polyethylene terephthalate or polyethylene naphthalate," (18) "the mixture is applied only to those portions of the conveyor that will contact the containers, or to only those portions of the containers that will contact the conveyor," (19) "the mixture exhibits shear thinning while being applied and is non-dripping when at rest." (Cleveland Decl. Ex. A.)

IV. The Pepsi "Derby"

Ecolab is the largest supplier of conveyor lubricants to Pepsi-owned bottling plants. (Arata Decl. at ¶ 19.) In early 2002, two Pepsi America bottling plants began using Dicolube TPB. (Lammers Decl. ¶ 4.) In January 2003, Pepsi Bottling Group invited JohnsonDiversey to submit its product for a trial run at the Pepsi bottling plant in Latham, Massachusetts. (Id.) According to Michael K. Lammers, JohnsonDiversey's Business Development Director for Beverage and Brewery, "Pepsi Latham had been having significant problems with their current Ecolab product, which Ecolab had failed to remedy. Dicolube TPB was run and it worked very well." (Id.)

A month later, Pepsi set up a trial called "The Derby" involving three lubricant manufacturers and nine bottling plants. (Id. at 5.) Pepsi invited Ecolab, PureChem, and JohnsonDiversey to supply conveyor lubricant to three plants each. (Id.) Pepsi has indicated that the manufacturer whose lubricant performs most successfully in The Derby will be invited to become Pepsi's primary supplier of conveyor lubricants. (Arata Decl. ¶ 13.) According to Mr. Lammers, "Dicolube TPB is performing very well. If successful, JohnsonDiversey will likely get business from additional plants." (Lammers Decl. ¶ 5.) Thomas C. Arata, Ecolab's Vice President of Marketing and Business Development for the North American Food and Beverage Division, also asserts that "Ecolab's KX-5152 product, the commercial embodiment of its '494 patent, is being used and is performing well" in the Pepsi Derby. (Arata Reply Decl. ¶ 4.) Nonetheless, Mr. Arata avers,

Johnson Diversey's practice of an allegedly infringing method "introduces an unfair element of uncertainty with which Ecolab should not have to contend." (Id.)

Standard of Decision

Injunctive relief in patent cases is authorized by 35 U.S.C. § 283 (1988). Whether a district court should award temporary injunctive relief pending a trial on the merits depends upon an evaluation of the following factors: (1) the movant's reasonable likelihood of success on the merits; (2) the irreparable harm the movant will suffer if preliminary relief is not granted; (3) the balance of hardships tipping in the movant's favor; and (4) the adverse impact on the public interest. See Hybritech, Inc. v. Abbot Laboratories, 849 F.2d 1446, 1451 (Fed. Cir. 1991) (setting forth factors and that injunctive relief in patent cases is governed by the law of the Federal Circuit); Nutrition 21 v. United States, 930 F.2d 867, 869 (Fed. Cir. 1991). The burden is always on the movant to show entitlement to a preliminary injunction. H.H. Robertson, Co. v. United Steel Deck, Inc., 820 F.2d 384, 388 (Fed. Cir. 1987).

Analysis

I. Likelihood of Success on the Merits

A party seeking a preliminary injunction in a patent case must first establish that it has a reasonable likelihood of success on the merits when the case is finally adjudicated. Hybritech, 849 F.2d at 1451. In seeking a preliminary injunction, a patent holder must establish a likelihood of success on the merits both with respect to (1) the infringement of

its patent, and (2) the validity of its patent. Id.; Reebok International, Ltd. v. J. Baker, Inc., 32 F.3d 1552 (Fed. Cir. 1994). The patentee must demonstrate both infringement and validity by a "clear show[ing]." Atlas Powder Co. v. Ireco Chemicals, 773 F.2d 1230 (Fed. Cir. 1985). When the presumptions and burdens applicable at trial are taken into account, the district court "should not issue [the injunction] if the party opposing the injunction raises 'a substantial question concerning infringement or validity, meaning that it asserts a defense that [the party seeking the injunction] cannot prove lacks substantial merit.'" Oakley, Inc. v. Sunglass Hut International, 316 F.3d 1331, 1340 (Fed. Cir. 2003) (quoting Tate Access Floors, Inc. v. Interface Architectural Resources, Inc., 279 F.3d 1357, 1365 (Fed. Cir. 2002)).

A. Claim Construction

The first step in either a validity analysis or an infringement analysis is construction of the claims at issue in order to determine the subject matter for which protection is sought. See Rockwell Int'l Corp v. United States, 147 F.3d 1358, 1362 (Fed. Cir. 1998). Courts must interpret claims the same way for validity and infringement. See Intervet America, Inc. v. Kee-Vet Lab., 887 F.2d 1050, 1053 (Fed. Cir. 1989).

Claim construction is a question of law to be determined by the court. See Markman v. Westview Instruments, Inc., 517 U.S. 370, 372 (1996). To determine the meaning and scope of a patent claim, the court begins with three sources: the claim itself,

the specification, and the prosecution history. See Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). These three sources, referred to as "intrinsic evidence," are the "most significant source[s] of the legally operative meaning of the disputed claim language." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996).

When analysis of the intrinsic evidence does not resolve a disputed claim term, the court may receive extrinsic evidence to aid in claim interpretation. See Markman, 52 F.3d at 980; Vitronics, 90 F.3d at 1583. While it is usually improper for a court to rely on extrinsic evidence when an analysis of intrinsic evidence alone will resolve a genuine ambiguity in a disputed claim term, see id. at 1582, dictionaries and technical treatises, "hold a 'special place,' . . . and may sometimes be considered along with the intrinsic evidence when determining the ordinary meaning of claim terms." Bell Atlantic Network Servs., Inc. v. Covad Communics. Group, Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001).

The parties' central argument is over the phrase "water-miscible lubricant," which appears in both independent claims and throughout the dependent claims. While the patent defines "water-miscible" substances as those "sufficiently water-soluble or water dispersible so that when added to water at the desired use level they form a stable solution, emulsion, or suspension," (Cleveland Decl. Ex. A at col. 2, ll. 46-50), the patent is silent as to the meaning of the word "lubricant." To resolve the meaning of the word "lubricant" in this phrase, the parties have advanced both dictionary definitions and the

declarations of several individuals with experience in the testing and development of conveyor lubricants. It is a cannon of claim construction that claims are construed as one skilled in the art would understand them in light of the specification of which they are a part. See Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1575 (Fed. Cir. 1986). While the Court has not explicitly been asked to define who constitutes "a person with ordinary skill in the art" in this case, the parties' expert declarants possess, at the very least, a college chemistry background and several years of practical experience with conveyor lubricants. For the purposes of this motion, therefore, the Court will assume that a person with ordinary skill in the art possesses at least these qualifications.

Ecolab offers the definition of "lubricant" from Webster's Ninth New Collegiate Dictionary: "a substance (as grease) capable of reducing friction" or "something that lessens or prevents friction or difficulty." (Pl.'s Mem. Supp. Prelim. Inj. at 17.) Ecolab also relies heavily—especially in its testing of Dowanol DPM—on the "understanding" of Ecolab Senior Chemist Amy McBroom that "a lubricant is a substance that produces a COF [coefficient of friction][3] lower than that produced using water alone." (McBroom Decl. ¶ 16.) Ms. McBroom has three years of college chemistry and has spent three and a

[3] A coefficient of friction is a physics concept that deals with measuring the ease with which two surfaces slide against each other. (McBroom Decl. ¶ 7.) In technical terms, it is expressed:

$$\text{Coefficient of Friction} = \frac{\text{Friction Force Caused by Drag}}{\text{Load Mass (Normal Force)}}$$

(Kassel Decl. ¶ 68.)

half years formulating, testing, and analyzing conveyor lubricants. Ecolab provides no support, other than Ms. McBroom's Declaration, for her definition of "lubricant."

JohnsonDiversey advances a definition of "lubrication" from Hawley's Condensed Chemical Dictionary (14th Ed.)—a source used by Ms. McBroom for the definition of Dowanol DPM, but not thereafter. Hawley's defines "lubrication" as:

> The introduction of a substance of low viscosity between two adjacent solid surfaces, one of which is in motion (bearing). From an engineering point of view, the chemical nature of the substance is not of critical importance. Thus, materials as diverse as air, water and molasses could theoretically be used as lubricants under appropriate conditions. Air and water have been used, as well as some solids such as graphite, but in general oils, fats, and waxes are utilized. The ability of a substance to act as a lubricant is sometimes called lubricity.

(Osswald Decl. ¶ 14.) Under this definition, whether or not a given substance is a "lubricant" depends on whether it, in fact, provides lubrication in a particular application. If "air, water, and molasses could theoretically be used as lubricants under appropriate conditions," then any of those substances could be counted as "lubricants" under the Hawley's definition so long as they lubricate a specific function.

In addition, JohnsonDiversey provides the definition of "lubricant" put forth by Jacques Rouillard, a current group manager of research and development at JohnsonDiversey and a former senior chemist. Mr. Rouillard's college education included eighteen credits in organic, inorganic, physical, and analytical chemistry, and he has worked with conveyor lubricants for over twenty-three years. His definition reads:

> **Lubricant.** A substance applied to track surfaces to materially improve the mobility of containers through the filling process. Suitability for use as a lubricant in a given application is a factor to be considered by the person of ordinary skill in the art in determining whether or not a given chemical or compound can be used as a "lubricant" in that application.

(Rouillard Decl. ¶ 10.)

The Court finds none of these definitions to be entirely satisfactory. Ecolab's definitions, which strain to define lubricant in wholly function-neutral terms, fail to take into account the context in which the method disclosed by the '494 patent is actually applied. If materials such as air and molasses can be lubricants given the proper application, then the word "lubricant" clearly requires reference to its function to be properly understood. While Ms. McBroom's definition avoids such a reference, the totality of her declaration—especially her experiments with containers and a conveyor belt—makes clear that reference to a substance's application is crucial to determine whether it qualifies as a lubricant. In this context, Ms. McBroom's choice of water as a baseline for determining relative coefficients of friction fails to advance the Court's inquiry. Not only is the choice of water entirely arbitrary, but its use as a baseline is directly contradicted by Hawley's—a source cited by Ms. McBroom—which lists water as a potential lubricant. Obviously, a lubricant cannot be both water *itself* and "a substance that produces a COF [coefficient of friction] *lower than . . . water.*" (McBroom Decl. ¶ 16 (emphasis added).)

JohnsonDiversey's definitions also present their share of problems. While Hawley's offers the most promising option, it never actually defines "lubricant," indicating, on one hand, that a lubricant is a "substance of low viscosity," and, on the other, that it could be almost anything at all. Likewise, Rouillard's definition is helped by reference to the method recited by the '494 patent, but it also imports a subjective component, relying, as it does, on an on-the-fly determination by a person of ordinary skill in the art on the "[s]uitability of use" of "a given chemical or compound" "as a 'lubricant.'" Needless to say, this begs, rather than answers, the question.

Lurking behind all these definitions, however, is a fairly basic concept. The declarants all agree that a lubricant must, at bottom, lower the coefficient of friction of a given application. If it does not, then it is not a "lubricant" in terms of that application. Indeed, the specification of '494 patent itself, referring to the "lubricant coating" that the mixture of the water-miscible silicone and lubricant ultimately creates, states:

> The invention provides a lubricant coating that **reduces the coefficient of friction of coated conveyor parts and containers** and thereby facilitates movement of containers along a conveyor line.

(Cleveland Decl. Ex. A at col. 2, ll. 2-5.) While this understanding of lubricant, drawn from the specification itself, refers to the "lubricant coating," the Court finds that it corresponds to the declarations before it and is applicable to the "water-miscible lubricant" set forth in claims 1, 21, and the dependent claims. Indeed, it seems clear that a "water-miscible lubricant" could not be a "lubricant" in the context of the '494 patent if

it did not reduce the coefficient of friction of that "lubricant coating" with regard to "coated conveyor parts and containers."

Thus, the Court concludes that a person of ordinary skill in the art would understand the word "lubricant," as used in the phrase "water-miscible lubricant" in claims 1 and 21 of the '494 patent, as follows: **"a substance that materially reduces the coefficient of friction of the lubricant coating with regard to coated conveyor parts and containers."**

B. Infringement

Having construed the disputed language in the claims, the Court must now compare the claims to the allegedly infringing product. See Kahn v. General Motors Corp., 135 F.3d 1472, 1476 (Fed. Cir. 1998); Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206 F.3d 1408, 1413 (Fed. Cir. 2000). To prove a likelihood of success on the merits of its literal infringement claim, Ecolab must establish by a preponderance of the evidence that each and every claim limitation is present in the allegedly infringing product. See, e.g., Dolly, Inc. v. Spalding & Evenflo Cos., 16 F.3d 394, 398 (Fed. Cir. 1994); Union Carbide Chems. v. Shell Oil Co., 163 F. Supp. 2d 426, 437 (D. Del. 2001); (see also Pl.'s Mem Supp. Prelim. Inj. at 15 ("[R]esort to the doctrine of equivalents is unnecessary because the use of JohnsonDiversey's revised Dicolube TPB so clearly literally infringes several claims of Ecolab's '494 patent.").) "If even one limitation is

missing or not met as claimed, there is no literal infringement." Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211 (Fed. Cir. 1998).

Ecolab asserts that JohnsonDiversey's use of Dicolube TPB literally infringes claims 1 and 21 of the '494 patent, as well as a number of the dependent claims. According to Ecolab:

> [C]laim 1 simply requires a mixture of (1) a "water miscible" silicone material, and (2) a "water-miscible" lubricant, (3) applied to either a container or a conveyor. The revised Dicolube TPB (1) contains PDMS, a water-miscible silicone material, and (2) [Dowanol] DPM, a water-miscible lubricant, and is (3) intended for, and only capable of, use on conveyors in beverage bottling operations and is actually used on conveyors in beverage bottling operations.

(Pl.'s Mem. Supp. Prelim. Inj. at 17.) In response, JohnsonDiversey's sole defense with regard to infringement is that Dowanol DPM is not, as claimed by Ecolab, a "water-miscible lubricant." Because Dowanol DPM has "100% water solubility" (McBroom Decl. Ex. A (Dow Product Information)), and is therefore indisputably "water-miscible," the only real question relating to infringement is whether Dowanol DPM is a "lubricant." The Court concludes that it is not.

In general, Dowanol DPM is primarily used as a solvent. As Dow's "product information" page states:

> DOWANOL * DPM glycol ether is a mid to slow evaporating solvent. This hydrophilic solvent has 100% water solubility and is ideally suited as a coupling agent in a wide rage of solvent systems. DOWANOL DPM glycol ether has a higher flashpoint that DOWANOL PM glycol ether making it easier to handle, store, and ship. Often incorporated into latex emulsion coatings DOWANOL DPM glycol ether can be used to prevent shocking (coagulation of emulsion) when

> hydrophobic solvents are used. More broadly, its hydrophilic nature makes it an ideal coupling aid in water reducible coatings and cleaning applications. DOWANOL DPM glycol ether's intermediate evaporation rate allow[s] it to be used in a potentially wider range of systems than many other solvents.

(McBroom Decl. Ex. A.) Dow also provides a number of "suggested applications" for Dowanol DPM, including:

- Coupling agent (often in blends) for water-based dilutable coatings.
- Active solvent for solvent-based coatings.
- Coupling agent and solvent in household and industrial cleaners.
- Tail solvent for solvent-based gravure and flexographic printing inks.
- Coupling agent in solvent blends for water-based gravure, flexographic, and silk screen printing inks.
- Coupling agent and solvent for vat dyeing fabrics.
- Mutual solvent, coupling agent, and emollient in cosmetic formulations.
- Stabilizer for agriculture herbicides.
- Coalescent for floor polishes and finishes.

(Id.) Finally, Dowanol DPM's "features" include:

- Powerful solvency
- Moderate evaporation rate
- Low viscosity
- High dilution ratio
- Low surface tension
- Coupling ability
- Wide range of applications

(Id.) Notably absent from Dow's information is any mention of the word "lubricant."

Of course, under the function-specific construction of the word "lubricant" adopted by the Court, its determination of whether Dowanol DPM operates as a lubricant requires specific reference to its application. Indeed, it is undisputed that Dowanol DPM

is used as a lubricant for some purposes. For instance, Dr. Thomas J. Hairston, a former Vice President of Research and Development for Dow Chemical, avers:

> I know the real world uses of Dowanol DPM, and I know for a fact it is used as a lubricant in compressors, air conditioners, and refrigeration units. Dowanol DPM is used in closed gas refrigeration systems because of its water solubility and low combined freezing point with water and could not be used in these applications if it did not act as a lubricant.

(Hairston Reply Decl. ¶ 7.) Moreover, Dow's "product information" page notes that Dowanol DPM has a "low viscosity," an attribute expressly ascribed to lubricants by Hawley's.

Under the Court's claim construction, a lubricant is "a substance that materially reduces the lubricant coating's coefficient of friction with regard to coated conveyor parts and containers." Thus, a determination of whether Dowanol DPM is a "water-miscible lubricant" requires an inquiry into the effect of Dowanol DPM on the coefficient of friction of Dicolube TPB in this application. JohnsonDiversey has provided evidence of two such experiments.

1. Dr. Stanga's 1997 Experiment

In 1997, Dr. Mario Stanga, a research chemist at Diversey Italy, tested the performance of PET bottles on a plastic conveyor belt comparing a control formula (comprised of 90% soft water and 10% silicone) to the formula for Dicolube TPB (90.45% soft water, 5% silicone, .5% Kathon, 4% Dowanol DPM, .03% cu-sulphate 5H20, .02% citric acid). (Stanga Decl. ¶ 8.) Dr. Stanga avers that he ran this test so he

"could evaluate the effects on lubricity of adding various biocides to the formula." (Id.) Comparing the coefficients of friction for these two formulas under these conditions, Dr. Stanga found that the control formula had a coefficient of friction of .104, while Dicolube TPB had a coefficient of friction of .105—a negligible difference. (Id.) Accordingly, Dr. Stanga's contemporaneous memorandum concludes that Dowanol DPM was an ideal cleansing choice for Dicolube TPB because it would "help detergency *without affecting lubricity*." (Kennedy Decl. Ex. D § 3.0). While Dr. Stanga's experiment has certain drawbacks for the Court's purposes—the control formula, for instance, is comprised only of silicone and water—it does have the advantage of being performed prior to the onset of litigation. Dr. Stanga's memorandum also makes clear, if nothing else, that Dowanol DPM was added to Dicolube TPB for its detergency, rather than its lubricity.

2. Mr. Rouillard's Experiment

After litigation in this matter commenced, Jacques Rouillard, a Group Manager and former Senior Chemist at JohnsonDiversey with 23 years of experience working with conveyor lubricants, performed a series of experiments using a "short track" conveyor (as suggested in the '494 patent) and a two-liter plastic bottle. In the most relevant experiments, Mr. Rouillard compared the results of Dicolube TPB with and without Dowanol DMB. Mr. Rouillard first performed the test running Dicolube TPB (at 1:500 dilution), then Dicolube TPB without Dowanol DMB (at 1:500 dilution). He found Dicolube TPB to have a coefficient of friction of .108 and Dicolube TPB without

Dowanol to have a coefficient of friction of .101. Mr. Rouillard then reversed the order the chemicals were applied to the conveyor and found similar results: Dicolube TPB without Dowanol had a coefficient of friction of .091, while Dicolube TPB had a coefficient of friction of .096. Thus, according to Mr. Rouillard's experiment, Dowanol DMB *raised* the coefficient of friction of Dicolube TPB.

3. Conclusion

Applying the Court's construction of the word "lubricant" to Dowanol DMB, these experiments demonstrate, for the purposes of the present motion, that Dowanol DMB in Dicolube TPB is not "a substance that materially reduces the coefficient of friction of the lubricant coating with regard to coated conveyor parts and containers." Dowanol DMB is therefore not a "water-miscible lubricant" as set forth in claims 1 and 21 of the '494 patent. Accordingly, the Court finds that Ecolab has not demonstrated a likelihood of success on the merits on its infringement claim.[4]

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[4]The Court has carefully considered all materials submitted to it, including the Declaration of Mark A. Kassel in Response to Second Declaration of David R. Cleveland, the Declaration of Mario Stanga, and Plaintiff's Memorandum of Law in Reply to Defendant's Late-Filed Declarations of Mario Stanga and Mark A. Kassel (and its accompanying declarations). Having found that Ecolab is unlikely to succeed on the merits of its infringement claim, however, and given the parties' insistence on a speedy resolution to this motion, the Court need not reach the question of the '494 patent's validity and will therefore leave the validity question for another day. See Sofamor Danek Group, Inc. v. DePuy-Motech, Inc., 1994 WL 846541 *10 (S.D. Ind. 1994), aff'd, 74 F.3d 1216 (Fed. Cir. 1996).

II. Irreparable Harm

For the Court to issue a preliminary injunction, a movant must establish both (1) a reasonable likelihood of success on the merits, and (2) that it will suffer irreparable harm if the injunction is not granted. Hybritech, 849 F.2d at 1451. "Thus, a movant cannot be granted a preliminary injunction without findings by the district court that the movant carried its burden on *both* factors." Reebok, 32 F.3d at 1556 (emphasis in original). The Court concludes that Ecolab has not established either factor.

To show irreparable harm, a patentee must show "objective proof" of a "specific injury" that may occur in the absence of an injunction. High Tech. Med. Instrumentation v. New Image Indus., 49 F.3d 1551, 1556-57 (Fed. Cir. 1995) (finding no irreparable harm where patentee neither makes nor licenses the protected product). A patentee may be entitled to a presumption of irreparable harm if it makes a "clear showing" or a "strong showing" of validity and infringement. Nutrition 21, 930 F.2d at 871; Bio-Tech. General Corp. v. Genentech, 80 F.3d 1553, 1565-66 (Fed. Cir. 1996). If the patentee establishes such a presumption, the defendant must then provide "persuasive evidence to rebut the presumption of irreparable harm." Id. at 1566.

Here, Ecolab has relied entirely on that presumption to establish irreparable harm. That presumption, however, is unavailable in the present case because—as discussed at length above—the record does not support Ecolab's claim that it is likely to succeed on its infringement claim. Apart from the presumption, Ecolab has advanced no evidence to

support the finding that money damages would be insufficient to compensate Ecolab for the alleged infringement. Rather, the evidence before the Court tends to indicate the opposite. As the Reply Declaration of Tom Arata, Ecolab's Vice President of Marketing and Business Development, makes clear (1) Ecolab presently enjoys substantial market dominance, (2) Dicolube TPB has only been on the market a short time, and (3) the past sales of Dicolube TPB are fairly small. Were Ecolab to later establish infringement *and* that it would have maintained the Pepsi contract absent the presence of Dicolube TPB—no sure thing given PureChem's participation in The Derby—it seems likely that Ecolab could quantify its damages with substantial precision. Because there is no indication of the kind of "market effects never fully compensable in money," Reebok, 32 F.3d at 1557, Ecolab has failed to demonstrate irreparable harm.

III. Equitable Factors: Balance of Harms & Public Interest

The Federal Circuit has held that "[b]ecause, irrespective of relative or public harms, a movant must establish both a likelihood of success on the merits and irreparable harm . . . the district court may deny a preliminary injunction based on the movant's failure to establish either of these two crucial factors without making additional findings respecting the other factors." Reebok, 32 F.3d at 1555. While a court must generally consider all four factors before granting a preliminary injunction, the Federal Circuit has "specifically decline[d] . . . to require a district court to articulate findings on the third and fourth factors when a court denies a preliminary injunction because a party fails to

establish either of the two critical factors." Id. Such is the case here. Because the Court has found that Ecolab failed to establish *both* crucial factors, it declines to make findings as to the balance of harms and the public interest.

Conclusion

Based on the foregoing and all of the files, records, and proceedings herein, **IT IS ORDERED** that Plaintiff's Motion for a Preliminary Injunction (Doc. No. 4) is **DENIED.**[5]

Date: May 29, 2003

RICHARD H. KYLE
United States District Judge

[5] In accordance with Fed. R. Civ. P. 52(a), the foregoing Memorandum Opinion and Order are the Court's findings of fact and conclusions of law which constitute the grounds of its action.